

Natural Area Mapping and Inventory of Brant Point 1988 Survey



Prepared by the Natural Resources Group
Michael R. Bloomberg, Mayor
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Brant Point Natural Area Mapping & Inventory

Surveyed July 1988

24 acres

Introduction

City of New York Parks & Recreation (DPR) manages one of the most extensive and varied park systems of any city in the world. These 29,000 acres of city park property occupy about 15 percent of New York City's total area. In addition to flagship parks such as Central Park and Prospect Park, the city's parklands include over 11,000 acres of natural areas.

Until the 1980's, the Parks Department was primarily concerned with developed landscapes and recreation facilities rather than natural areas. In the absence of a comprehensive management policy, these areas succumbed to invasive species, pollution and erosion.

In 1984, Parks established the Natural Resources Group (NRG) with a mandate to acquire, restore and manage natural areas in New York City. The wetlands, forests, meadows, and shorelines under NRG's jurisdiction provide valuable habitat for hundreds of species, from rare wildflowers to endangered birds of prey. In addition to the goals mentioned above, NRG serves as a clearinghouse for technical research to aid in the protection and restoration of the city's natural resources. This inventory of Brant Point was conducted in 1987 as part of NRG's commitment to improving the natural areas of New York City parks.

In 1992 the Parks Department acquired Brandt Point, a salt marsh on the Rockaway Peninsula. The marsh was soon designated a protected wildlife sanctuary through the Buffer the Bay program, a joint effort of the Trust for Public Land and the New York City Audubon Society. The salt marsh growing around Brandt Point filters the water flowing into Jamaica Bay. Specialized organisms such as salt marsh cordgrass, fiddler crabs and ribbed mussels are uniquely adapted to absorb pollutants and trap sediment. Despite their important role in the region's ecology, humans have filled over 80 percent of the city's salt marshes in the past two centuries. While recent conservation efforts have improved the condition of many marshes, this valuable ecosystem type continues to disappear from the City at an alarming rate.

To facilitate the protection, management and restoration of Brant Point, NRG completed an inventory of the area using entitiation, a process of identifying and describing ecologically distinct plant communities. Using aerial photographs and field reconnaissance, Parks staff delineated distinct ecological entities, known as entitiation units, based on cover type, understory structure, species composition, and topography. Evidence of historical use, current use, environmental disturbance, and additional notes were also recorded for each unit. Entitiation of Brant Point resulted in a map and database that can be used to locate valuable and threatened areas. They also serve as a baseline for measuring change over time.

Entitiation

Entitiation is a type of plant community inventory well suited to the patchy environments often found in urban areas. Originally designed for European landscapes, the system was revised by NRG in 1985 for use in urban parkland. NRG has used entitiation widely and successfully to facilitate acquisition and restoration decisions. Put simply, entitiation is a process of breaking up a park into manageable parts called "entities" or "entitiation units." Entitiation units are defined using a weighted list of criteria. The first level of distinction is based on cover type (e.g. closed forest, vineland, scrub), followed by canopy species composition, understory type (e.g. herbs, vines, shrubs), and understory species composition. Additional factors, such as topography and soil condition (e.g. wet, moist, dry) are also taken into account.

To prepare for fieldwork, mapping technicians examine aerial photographs and delineate areas of similar cover. The mapping staff use the aerial information to create a strategy for covering land area. In the field, boundaries are identified as described above. For each unit, staff record the data listed above, as well as current uses, environmental disturbances, historical indicators, community stability, and comments.



ENTITATION UNITS - 1988
 BRANT POINT
 QUEENS COUNTY, CITY OF NEW YORK



**City of New York
 Parks & Recreation
 Natural Resources Group**

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Brant Point Entitation Unit Descriptions, Surveyed July 1988

Unit: 28
Acreage: 3.55
Mgmt. Concern: No

<u>Site:</u>	<u>Species</u>	<u>Height</u>	<u>Exotic</u>	<u>Historical</u>	<u>Uses</u>	<u>Disturbance</u>
Intertidal	S. alterniflora	<5'	No	Barge offish		Debris wash
Slope	S. patens	<5'	No			Auto
Wet	Phragmites	5'-30'&5'	No			
			No			
			No			
			No			

Comments:

Rocky beach area changing to crushed shells. Algae: sea lettuce, rockweed, graceful red weed, Grinnell's pink leaf, and Enteromorpha. Vegetation: marsh elder, glasswort, sea lavender, spearscale, spike grass, lamb's quarters, sea blite, and seaside goldenrod. Wildlife: soft and hard-shelled clams, oysters, blue crabs, fiddler crabs, razor clams, rough periwinkles, barnacles, ribbed mussels, flounder, laughing gulls, red blackbirds, mosquitoes, barn swallows, common tern, snowy egret, and little cockles.

Unit: 29
Acreage: 4.17
Mgmt. Concern: No

<u>Site:</u>	<u>Species</u>	<u>Height</u>	<u>Exotic</u>	<u>Historical</u>	<u>Uses</u>	<u>Disturbance</u>
Herbaceous	Phragmites	5'-30'&<5'	No		Dog pack	Auto
Undulating			No			Dumping
Dry/Moist			No			
			No			
			No			

Comments:

Phragmites field mixed with grasses (black grasses, switch grasses) Queen Anne's lace, white sweet clover, wormwood, spearscale, cocklebur, sea lavender, curled dock, common plantain, hedge bindweed.

Brant Point Entitation Unit Descriptions, Surveyed July 1988

Unit: 30
Acreage: 8.24
Mgmt. Concern: No

<u>Site:</u>	<u>Species</u>	<u>Height</u>	<u>Exotic</u>	<u>Historical</u>	<u>Uses</u>	<u>Disturbance</u>
Herbaceous	White sweet clover	<5'	No	Landfill	Vehicle access	Dumping
Undulating	Phragmites	5'-30'&<5'	No	Old garage		Auto
Dry/Moist	black grass	<5'	No			
			No			
			No			
			No			

Comments:

Herbaceous field with a few scattered shrubs (15') & trees (~15'). Vegetation: Virginia creeper, cottonwood, marsh elder, chicory, Queen Anne's lace, mugwort, goldenrod, Norway maple, Japanese knotweed, black locust, groundsel-tree, black cherry, bayberry, wild lettuce, lady's thumb, red clover, prickly lettuce, peppergrass, Japanese broome, Russian olive, spike grass, common mullein, switch grass, evening primrose, wormwood, common burdock, seaside orach, tartarian honeysuckle, sedges. Wildlife: house sparrows, (?) caterpillar.

APPENDIX: Glossary

Many of these definitions are adapted from Marge Garguillo's unpublished *Plants of New York City Natural Areas: An ecological manual* (2005).

Chamaephyte: Mature branch or shoot system remaining perennially less than or equal to 100in above ground. Buds are produced on aerial branches close to the soil. (e.g. shrubs)

Closed forest: An area formed by trees at least 15 feet tall with interlocking crowns and at least 80% canopy closure.

Competition: The ability of one plant to overwhelm another plant by shading it out or otherwise overwhelming it.

Deciduous: Majority of trees shed their foliage in the autumn months.

Depression: A hollow, or low point, as compared to the surrounding topography. May or may not contain water.

Dominant: The most abundant plants in a particular plant community. A **codominant** plant is about equally as abundant as the dominant species.

Exotic: A species that does not naturally inhabit a specific area. An exotic plant may or may not be invasive where it is introduced.

Exotic planting: A gardened area where non-native species (e.g. privet, periwinkle) are tended.

Full-crown tree: Initially open-grown and free of competition: currently very large with a dominating crown.

Geophyte: Plants with buds or shoots surviving below the ground (rhizomes, bulbs, stem tubers, root tubers.)

Graminoid: Grasses and grass-like plants.

Hedgerow: Evidence of trees or shrubs planted in line i.e., maple or privet along road or path.

Hemicryptophyte: Shoots die back to ground level.

Herb: Plants without woody tissues that die back to the ground in the winter. This classification is usually applied to broad-leaved plants rather than grasses, but includes grasses for the purpose of entitation.

Herbaceous community: An area where grasses, grasslike plants, and herbaceous plants are predominant. Woody plants may be sparingly present, but cover less than 30% of area.

Intertidal Communities: Substrate is exposed and flooded by tides, includes the associated splash zone.

Invasive plant: A plant species that grows and reproduces without constraint, crowding or shading out other plants. The term is usually applied to plants that are not native to the given region. Invasiveness in a plant that is native to the region is rare and probably caused by unusual circumstances.

Knoll: A small isolated hillock.

Landfill: Topography altered by previous filling or dumping: i.e., while building a road or altering a wetland area. Look for rubble on the soil surface or sudden changes in grade.

Lianas: Vascular plants needing support, rooting in the ground permanently (vines).

Native plant: Plants that were growing in this region before Europeans came to North America. Native plants are adapted to the climate and soils of their region. They have relationships with birds, mammals, insects, and fungi and are integrated into the ecology of the region. New York City's native plants come from seed that spread northward after the last glaciers melted thousands of years ago.

Ornamental: Plants used as horticultural specimens in gardens or developed parks, not intended to reproduce or be part of a natural plant community. Very often they are non-native plants.

Phanerophyte: Plants that grow taller than 100 in. or whose shoots do not die back periodically to that height (e.g., trees).

Scrub: A shrubland or thicket, mainly composed of woody plants 1.5 to 15 feet tall.

Slope: Ground that forms a natural or artificial incline.

Soil compaction: Increasing soil density and decreasing porosity due to application of mechanical forces to the soil: i.e. due to vehicle, horse, or foot traffic.

Species: A group of organisms that can interbreed to produce fertile young.

Understory: Habitat below the tree canopy of a forest. The understory is a plant community of tree saplings, shrubs, herbs, graminoids, and mosses that can live in shade or part shade.

Undulating: The area has a wavy surface. Its neither a slope, a level area, or a depression, but rather a combination of all three.

Vineland: An area formed by at least 30% vines. Vines may be supported by vegetation, artificial means or ground surface. Often occurs on the forest or shrub border.

Woodland: An area formed by trees at least 15 feet tall, with most of their crowns not touching each other, but at least 30% canopy closure.